TAKOTNA
Health Clinic

Alaska Rural Primary Care Facility
Code and Condition Survey Report

July 23, 2001

I. EXECUTIVE SUMMARY

Overview

The building housing the Takotna clinic appears to be about 10 – 12 years old. The overall structure is stable and is performing well. The clinic occupies a portion of the main floor of a community building that also has dining rooms and a kitchen. One health care worker manages the clinic, including visits from boarding school students, as the community operates a commercial boarding school nine months out of the year. During the school year the population increases from 50 to about 125 persons. The lack of adequate clinic space prevents the staff from providing an appropriate level of health care to the community.

Renovation and Addition

The clinic portion of the building is 640 s.f. and would require an addition of 1360 s.f. to meet the 2000 s.f. minimum area recommended for a medium clinic by the Alaska Rural Primary Care Facility study. Nearly all of the existing clinic would require remodeling as a part of any addition to the clinic. There is insufficient space around the existing building for an addition of this size. The cost of required renovations and code upgrades, combined with the cost of a new addition, equal 133% of the cost of a new clinic.

New Clinic

Because the cost of renovation and addition is more than 75% of the cost of new construction, a new clinic of at least 2000 s.f. should be built to replace the existing clinic. The proposed new clinic site is well situated within the community and fronts on the Takotna River, as does the current clinic. Although a new clinic of 1500 s.f. would meet most of the community needs for the year-round population of 50 persons, the larger winter population, due to the charter boarding school program, supports the provision of a larger clinic. This study assumes that the population that determines the need for a clinic is the predominant number of people living in the area for the most part of the year. By this definition, the students and teachers in the boarding school would count in determining clinic size.

II. GENERAL INFORMATION

A. The Purpose of the Report

ANTHC has entered into a cooperative agreement with the Denali Commission to provide management of the small clinic program under the Alaska Rural Primary Care Facility (ARPCF) assessment, planning, design, and construction. The purpose of the Code and Condition Survey Report is to validate the data provided by the community in the Alaska Rural Primary Care Facility Needs Assessment and to provide each community with a uniform standard of evaluation for comparison with other communities to determine the relative need among the communities of Alaska for funding assistance for the construction of new or remodeled clinic facilities. The information gathered will be tabulated and analyzed according to a set of fixed criteria that will yield a priority list for funding. Additionally, the relative costs of new construction vs. remodel/addition will be evaluated to determine the most practical and cost effective means to bring the clinics up to a uniform standard of program and construction quality. The information provided in this report is one component of the scoring for the small clinic RFP that the Denali Commission sent to communities in priority Groups 1 and 2.

B. The Assessment Team

The survey was conducted on June 5, 2001 by John Crittenden, AIA, Architects Alaska and Ralph DeStefano, PE, RSA Engineering. Dan Williams of ANTHC and Theresa Gallagher of Tanana Chiefs were the team escorts. Both Dan and Theresa made introductions, reviewed alternative site locations, and conducted meetings with the users. Team members who assisted in the preparation of the report included Stephen Schwicht and Ian VanBlankenstein of NANA/DOWL, project managers for the survey team, and Jay Lavoie of Estimations, Inc.

C. The Site Investigation

The format adopted is similar to the "Deep Look", a facility investigation and condition report used by both ANTHC and the Public Health Service, in maintaining an ongoing database of facilities throughout the country. Facilities are evaluated with respect to the requirements of the governing building codes and design guidelines. Building code compliance, general facility condition, and program needs have been evaluated. This written report includes a floor plan of the clinic and a site plan indicating the existing clinic site. Additional information gathered during the site investigation that is referred to in the report, which includes sketches of building construction details, a building condition checklist, and proposed plans for village utility upgrades, are not included with this report. This information is available for viewing at ANTHC's Anchorage offices and will be held for reference.

III. CLINIC INSPECTION SUMMARY

A. Community Information

The community of Takotna has a current population of 50 as published in the 2000 U.S. Census, however, the population increases to about 125 during the winter when the local charter school is in operation. Takotna is located 17 air miles west of McGrath in the Manley Hot Springs Recording District. It is a part of Doyon Regional Corporation. Refer to the attached Alaska Community Database prepared by the Alaska Department of Community and Economic Development in Appendix C for additional information on the community.

B. General Clinic Information

The Takotna clinic is part of a community building that appears to be about 10 – 12 years old. The building also houses a restaurant/dining room adjacent to the clinic on the main level, and a series of offices and sleeping rooms above the restaurant. This investigation did not include an evaluation of the entire building, but rather that portion that contains the clinic. The clinic portion of the building is a one-story gable roofed structure of 640 s.f. that was added to the community building.

C. Program Deficiency Narrative

The existing clinic consists of a large waiting area, a single toilet room serving the entire first floor, a small storage room, a small office area and a reasonably sized exam room. The clinic appears to have served the community well in the past, however, the introduction of a boarding charter school has put greater demands on the clinic. The waiting area is centrally located which makes privacy and confidentiality difficult. The staff and students use the clinic for 9 months of each year and tax the capacity of the clinic.

The following table illustrates a comparison between the current actual square footage (SF) and the 2000 s.f. minimum area recommended by the Alaska Rural Primary Care Facility study for a Medium Clinic:

Table 1 – ARPCF Clinic Area Comparison

Purpose/Activity	#	Existing Net SF	#	ARPCF Medium	Difference
Arctic Entry	1	-	2	2 @ 50=100	100
Wait/Recep/Closet	1	187	1	150	-37
Trauma/Telemed/Exam	1	180	1	200	20
Office/Exam	1	-	1	150	150
Admin./Records	1	110	1	110	-
Pharmacy/Lab		-	1	80	80
Portable X-ray		-		-	-
Spec. Clinic/Health Ed./Conf.		-	1	150	150
Patient Holding/Sleep Room		-	1	80	80
Storage	1	24	1	100	76
HC toilet	1	24	2	2 @ 60=120	96
Janitorial Closet		-	1	30	30
Total Net Area				1270	
Mechanical Room		-		147	147
Morgue/Ancillary	1	-		30	30

The Takotna Clinic has a current gross area of 640 s.f. This would require a gross building area expansion of approximately 1360 s.f. to meet the 2000 s.f. minimum ARPCF requirement for a Medium clinic.

An analysis of the existing building's program functions follows. Please also refer to the floor plan in Section H:

- **Arctic Entries**: The partially enclosed porch provides a shelter when entering the building. The back egress is through the dining room.

- **Waiting:** A large waiting area is provided with only 6 seats. The rest is left open for general circulation.

- **Trauma/Telemed/Exam:** The large exam room is adequate for trauma response and most of the equipment that is anticipated by the ARPCF study.

- **Office/Exam:** Only one exam space is provided in the clinic (see above).

- **Administration/Records:** One small office is provided which has through circulation to the main exam room.

- **Pharmacy/Lab:** All lab activities are conducted within the main exam room space. One wall of the main exam room accommodates most of the lab equipment and pharmacy supplies in the clinic.

- **Specialty Clinics:** Specialty clinics require the use of current exam space, or, alternately, can be held in the adjacent dining room if educational in nature.

- **Patient Holding/Sleep:** None provided. There are overnight rooms in the adjacent part of the building.

- **Storage:** In addition to the exam room storage, a very small closet which is less useful due to the in-swinging door.

- **HC Toilet Room:** The toilet room is undersized for handicapped access. There are no bathing facilities on the clinic level of the building.

- **Janitor Closet:** None provided for the clinic.

- **Ancillary Spaces:** None.

D. Architectural/Structural Condition

The existing building is constructed on concrete pads placed on classified fill. It does not appear to be affected by differential settlement. The walls are 2x6 with conventional T-111 siding and interior paneling. Roofing is corrugated metal and covers a ventilated trussed roof. There is a partially enclosed deck through which patrons enter, which is accessed by a short ramp and stairs. Neither of these complies with the ADA handrail and slope requirements. There is an additional step up into the clinic from the deck.

There is not a fire separation between the clinic occupancy and the adjacent dining/sleeping facility. Other specific deficiencies are noted in Appendix A

E. Site Considerations

The community plans to locate the new clinic on a site on the opposite side of the dining hall building. An existing building currently used as a community library (actually, the old clinic) would have to be moved. There is sufficient space at the proposed location for a 1500 s.f. clinic. A larger clinic would also probably fit. If a larger clinic is approved, this site should be studied more closely. The proposed site would require a septic drain field. Due to site constraints and the low elevation of the site, a lift station would likely be required to pump

septics to a higher elevation and an alternate, higher, drain field. The community does not have current planning in place for a waste system for the community.

Existing site utilities include an on-site well and septic system, and village supplied power and telephone service. The on-site well is not potable. For drinking water clinic personnel haul water to the clinic in 5-gallon containers.

F. Mechanical Condition

Heating and Fuel Oil: A Williamson forced air furnace provides heating for the facility. The furnace is located in a very small room adjacent to the community room. The supply ducts for the furnace heating system are enclosed in a ceiling soffit space and the return system is via wall openings from the corridor into the mechanical room. Ductwork is distributed to the occupied rooms of the clinic except the clinic office. There were complaints that the system provided inadequate heating in the clinic office and the exam room. Items that could contribute to the inadequate heating could be that there were no dampers in the supply ductwork, so the flow is not balanced and the filters of the furnace were very dirty, which would prevent proper air flow. The furnace is very old and its replacement should be expected in the very near future. A Toyostove was also been installed in the clinic office to provide back-up heating and was being used for additional heat.

Two 800-gallon, single walled tanks are piped together and mounted on wooden stands located adjacent to the building. They provide fuel to the forced air furnace. Fuel for the Toyo stove is stored in an 800-gallon tank mounted on wooden stands located adjacent to the building. All three tanks need to be replaced. The tanks are not UL listed, not properly supported, not vented and located too close to the building. The piping between the tanks and the heating equipment also needs to be replaced, so proper support and valving can be installed.

Ventilation: There is no mechanical ventilation or exhaust for the clinic. The only source of ventilation for the occupied spaces is though operable windows. The clinic needs to be provided with a mechanical ventilation system and should not rely on operable windows alone.

Plumbing: Water is provided by an onsite well located within 10 feet of the river. The well does not provide potable water and drinking water must be hauled to the building. An electric water heater generates hot water for the building. A three-inch waste line from the building gravity flows to an on-site septic system next to the building. Plumbing fixtures in the clinic included a toilet and lavatory in the restroom, neither meeting ADA requirements, and a sink in the exam room. The water to the lavatory was shutoff during our visit. There was no mop sink in the clinic and water for housekeeping is provided through a hose connection from the lavatory in the restroom. This is a code and health problem since the system is not protected with a vacuum breaker and cross contamination can occur.

G. Electrical Condition

Power: 120/240-volt, single-phase power, separate from the community building, is provided to the clinic's electrical meter through an overhead service. The main breakers located at the service entrance serve as the circuit breakers for the clinic. A new electrical panel needs to be installed in the clinic from the meter. The breakers at the meter base also need to be revised to protect the new meter. The number of receptacles in the building appeared adequate. No plug strips or extension cords were observed. Receptacles within 10 feet of exam room sink or the restroom sink were not GFCI protected. There were no receptacles on the outside of the building.

Lighting and Emergency Fixtures: Interior lighting is provided by surface mounted florescent fixtures in the exam and office areas and by incandescent lights in the waiting room. Lighting levels in the exam room is adequate, however lighting levels in the waiting room are poor and the fixtures need to be replaced. If the building is renovated all light fixtures should be replaced. There are no lights at the entrance to the clinic. No emergency light fixtures were provided in the clinic. No emergency exit signs were provided in the clinic. The fire alarm system consists of a single battery operated smoke detector installed in the clinic office.

Telecommunications: The telecommunication system includes two phone lines serving the clinic. A Telemed system had not yet been installed in the clinic.

H. Existing Facility Floor Plan

See following sheet for the floor plan of the existing clinic.

J. Community Plan

Refer to the attached community plan for location of the existing clinic and the proposed location for the new clinic. If the existing clinic site is the preferred location or if a new site has not yet been selected, only the existing clinic location will be shown.

IV. DEFICIENCY EVALUATION AND COST ASSESSMENT

The attached deficiency reporting forms are based on Public Health Service form AK H SA-43. The forms are numbered sequentially for each discipline starting with **A01** for Architectural and structural deficiencies, **M01** for Mechanical deficiencies and **E01** for Electrical deficiencies.

A. Deficiency Codes

Deficiencies are further categorized according to the following PHS Deficiency codes to allow the work to be prioritized for federal funding, should that apply. Deficiency codes used in this survey include:

02 **Fire and Life Safety:** These deficiencies identify areas where the facility is not constructed or maintained in compliance with provisions of the state mandated building codes including the International Building Code, The Uniform Fire Code, NFPA 101, The Uniform Mechanical and Plumbing Codes and The National Electrical Code.

03 **Safety:** These deficiencies identify miscellaneous safety issues.

04 **Environmental Quality:** This addresses DEC regulations, hazardous materials and general sanitation.

05 **Program Deficiencies:** These are deficiencies which show up as variations from space guidelines established in the Alaska Primary Care Facility Facility Needs Assessment Project and as further evaluated through observation at the facility site and documented in the facility floor plans.

07 **Disability Access Deficiencies:** The items with this category listing are not in compliance with the Americans with Disabilities Act.

08 **Energy Management:** These deficiencies address the efficiency of heating systems/fuel types and the thermal enclosures of buildings.

11 **Structural Deficiencies:** These are deficiencies with the fabric of the building. It may include the foundations, the roof or wall structure, the materials used, the insulation and vapor retarders, the attic or crawl space ventilation and the general condition of interior finishes. Foundation systems are included in this category.

12 **Mechanical Deficiencies:** These are deficiencies in the plumbing, heating, ventilating, air conditioning, or medical air systems.

13 **Electrical Deficiencies:** These are deficiencies with electrical generating and distribution systems, fire alarm systems and communications systems.

14 **Utilities:** This category is used for site utilities, as opposed to those within the building and may include sewer lines and water and power distribution.

B. Photographs

Each sheet has space for a photograph. Some deficiencies do not have photos. Photographs do not cover all areas where the deficiencies occur but are intended to provide a visual reference to persons viewing the report who are not familiar with the facility. Additional photographs of the clinic and the surrounding area are included in Appendix B.

C. Cost Estimate General Provisions

New Clinic Construction

- **Base Cost**

The Base Cost provided in Section VI of this report is the direct cost of construction, inclusive of general requirements (described below) and contingency for design unknowns (an estimating contingency) The base cost is exclusive of overhead and profit, mark-ups, area cost factors and contingencies. Material costs for the project are all calculated FOB Anchorage and labor rates are based on Davis Bacon wages, regionally adjusted to Anchorage. Transportation costs, freight, Per Diem and similar costs are included in the base costs. The Project Factors and Area Cost Factor are multipliers of the base costs.

General Requirements are based on Anchorage costs without area adjustment. It is included in the Base Cost for New Clinics. These costs are indirect construction cost not specifically identifiable to individual line items. It consists of supervision, materials control, submittals and coordination, etc. The general requirements factor has not been adjusted for Indian Preference.

The Design Unknowns Contingency is an estimator's contingency based on the schematic nature of the information provided, the lack of any real design, and the assumption that any project will encompass related work not specifically mentioned.

- **Project Cost Factors**

  Equipment Costs for new medical equipment has been added at 17% of the cost of new floor space.

  Design Services is included at 10% to cover professional services including engineering and design.

  Construction Contingency is included at 10% of the Base Costs to cover changes encountered during construction.

  Construction Administration has been included at 8% of the Base Costs. This is for monitoring and administration of the construction contract.

- **Area Cost Factor**

The Area Cost Factor used in the cost estimates for this facility is shown in Section VI of this report. The area cost factors are taken from a recent study completed for the Denali Commission for statewide healthcare facilities. The numbers are the result of a matrix of cost variables including such items as air travel, local hire costs, room and board, freight, fire protection equipment, foundation requirements, and heating equipment as well as contractor costs such as mobilization, demobilization, overhead, profit, bonds and insurance. These parameters were reconsidered for each village, following the site visit, and were modified, if necessary.

- **Estimated Total Project Cost of New Building**

This is the total estimated cost of the project, including design services. The construction contract will be work subject to Davis Bacon wages, and assumes construction before year-end 2001. No inflation factor has been applied to this data.

Remodel, Renovations, and Additions

- **Base Cost**

The Base Cost provided in the specific deficiency sheets is the direct cost of construction, exclusive of overhead and profit, mark-ups, area cost factors and contingencies. Material costs for the project are all calculated FOB Anchorage and labor rates are based on Davis Bacon wages, regionally adjusted to Anchorage. Most of the deficiency items do not constitute projects of sufficient size to obtain efficiency of scale. The estimate assumes that the projects are completed either individually, or combined with other similar projects of like scope. The numbers include moderate allowances for difficulties encountered in working in occupied spaces and are based on remodeling rather than on new construction costs. Transportation costs, freight, Per Diem and similar costs are included in the base costs. The General Requirements, Design Contingency and Area Cost Factors are multipliers of the base costs.

The cost of Additions to clinics is estimated at a unit cost higher than New clinics due to the complexities of tying into the existing structures.

Medical equipment is calculated at 17% of Base Cost for additions of new space only and is included as a line item in the estimate of base costs.

- **General Requirements Factor**

General Requirements Factor is based on Anchorage costs without area adjustment. The factor is 1.20. It is multiplied by the Base Cost to get the project cost, exclusive of planning, architecture, engineering and administrative costs. This factor assumes projects include multiple deficiencies, which are then consolidated into single projects for economies of scale. The general requirements factor has not been adjusted for Indian Preference.

- **Area Cost Factor**

The Area Cost Factor used in the cost estimates for this facility is shown in Section VI of this report. The area cost factors are taken from a recent study completed for the Denali Commission for statewide healthcare facilities. The numbers are the result of a matrix of cost variables including such items as air travel, local hire costs, room and board, freight, fire protection equipment, foundation requirements, and heating equipment as well as contractor costs such as mobilization, demobilization, overhead, profit, bonds and insurance. These parameters were reconsidered for each village, following the site visit, and were modified, if necessary.

- **Contingency for Design Unknowns (Estimating Contingency)**

The Design Unknowns Contingency is an estimator's contingency based on the schematic nature of the information provided, the lack of any real design, and the assumption that any project will encompass related work not specifically mentioned. The factor used is 1.15.

- **Estimated Total Cost**

This is the total estimated bid cost for work completed under Davis Bacon wage contracts, assuming construction before year-end 2001. This is the number that is entered in the front of the deficiency form. No inflation factor has been applied to this data.

- **Project Cost Factors**

Similar to new clinics, the following project factors have been included in Section VI of this report.

Design Services is included at 10% to cover professional services including engineering and design.

Construction Contingency is included at 10% of the Base Costs to cover changes encountered during construction.

Construction Administration has been included at 8% of the Base Costs. This is for monitoring and administration of the construction contract.

- **Estimated Total Project Cost of Remodel/Addition**

This is the total estimated cost of the project including design services, the construction contract cost for work completed under Davis Bacon wages and assuming construction before year-end 2001. No inflation factor has been applied to this data.

V. SUMMARY OF EXISTING CLINIC DEFICIENCIES

The attached table summarizes the deficiencies at the clinic and provides a cost estimate to accomplish the proposed modifications. If all deficiencies were to be addressed in a single construction project there would be cost savings that are not reflected in this tabulation. The total cost of remodel/addition shown in Section VI is intended to show an overall remodel cost that reflects this economy. Refer to Section VI for a comparison of remodel/addition costs to the cost of new construction. The specific deficiency sheets are included in Appendix A.

VI. NEW CLINIC ANALYSIS

The decision on whether to fund new clinic construction or a remodel/addition of the existing clinic is to be determined by comparing the cost of a new facility designed to meet the program requirements of the Alaska Rural Primary Care Facilities minimum area requirements with the projected combined cost of renovating, remodeling and adding onto the existing building to provide an equivalent facility. If the cost of the remodel/addition project is greater than 75% of the cost of constructing an altogether new facility then a new facility is recommended. That ratio is computed as follows:

- **The cost of a new clinic in Takotna is projected to be:**

Base Anchorage Cost per s.f.		$183/ s.f.
Medical Equipment Costs @ 17%		$31
Design Services 10%		$18
Construction Contingency 10%		$18
Construction Administration. 8%		$15
Sub-total		$265/ s.f.
Area Cost Factor for Takotna	1.26*	
Adjusted Cost per s.f.		$334/ s.f.

Total Project Cost of NEW BUILDING 2,000 x $334 = $668,000

- **The cost of a Remodel/Renovation/Addition is projected to be:**

Projected cost of code/condition renovations (From the deficiency summary)
90% of cost of code/condition improvement** $114,381 Renovation

Projected cost of remodeling work (See A05)
640 s.f. clinic @ 100% remodel = 640 s.f. $65,099 Remodel

Projected cost of building addition (See A06)
2,000 s.f. – 640 s.f. = 1,360 s.f. $513,204 Addition
Design 10%, Const. Contingency 10%, Const. Admin. 8% $193,952

Total Project Cost of REMODEL ADDITION **$886,636**

- **Ratio of remodel:new is $886,636 : $668,000 = 1.33X**

The cost of a remodel/addition for this clinic would cost 133% the cost of a new clinic, therefore, a new clinic is recommended for this community.

* The Area Cost Factor was refined by Estimations, Inc. in July 2001 based on information obtained during the site visit.

** The 90% factor represents economy of scale by completing all renovation work in the same project.

Appendix A: SPECIFIC DEFICIENCIES LISTING

Refer to the attached sheets for the listing of the individual deficiencies and the corrective action recommended.

Appendix B: GENERAL SITE PHOTOGRAPHS

The following sheets provide additional photographic documentation of the existing building and surroundings.

Appendix C: ADCED Community Profile

Refer to the attached document prepared by Alaska Department of Community and Economic Development profiling the community of Takotna.

This Report was Prepared by

NANA/DOWL, JV

with assistance from

Architects Alaska
and
RSA Engineering
Under
Contract No. ANTHC-98-03
Delivery Order 01-D-0558

A Division of DOWL

Architects Alaska
A Professional Corporation

Architecture
Facility Planning
Interior Architecture

900 W. 5th Ave. Suite 403
Anchorage, AK 99501
(907) 272-3567

R S A Engineering, Inc.